

SILICATE GLASS FOR UPCONVERSION FLUORESCENCE

ABSTRACT OF THE DISCLOSURE

A thulium doped silicate glass composition which contains SiO_2 , Al_2O_3 , and La_2O_3 emits visible and UV light when excited by infrared light. The glass
5 composition may also contain GeO_2 and Er_2O_3 . When excited by infrared light of about 1060 nm, the glass emits visible light at fluorescent transitions of the Tm^{3+} ions with major broad features at 365, 455, 472, 651, and 791 nm.